



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSENER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22304-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10 076,818	02 14 2002	Nikhil V. Kelkar	NSC1P229 P05148	2031

22434 7590 09 03 2003

BEYER WEAVER & THOMAS LLP
P.O. BOX 778
BERKELEY, CA 94704-0778

EXAMINER

KIM, PETER B

ART UNIT PAPER NUMBER

2851

DATE MAILED: 09 03 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,818

Applicant(s)

KELKAR ET AL.

Examiner

Peter B. Kim

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2851

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: on page 1, line 13, "SMB" seems to be a typo.

Appropriate correction is required.

Claim Objections

Claim 13 is objected to because of the following informalities: Claim 13 is dependent on the "apparatus of claim 10." However, claim 10 is a method claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-8, 12, 13 and 17 are rejected under 35 U.S.C. 102(a) as being anticipated by Walker et al. (Walker) (6,275,277).

Walker discloses an apparatus and a method of scribing a semiconductor wafer coated with a material comprising a stage (140) configured to support a wafer (100), an imaging unit (camera) to image the wafer (col. 13, lines 5-19), generating a picture of wafer from the image and a computer using the picture to identify the scribe lines and scribing the wafer using the lines

Art Unit: 2851

(col. 13, lines 5-44). It is inherent from Walker's teaching that the camera identifying the scribe lines would provide the coordinates necessary for the scribing. Walker also teaches heating the wafer to predetermined temperature of approximately 90 degrees C or less (col. 8, lines 47-57).

Claims 1-5, 9, 12, 14, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Hasegawa (2003/0038343).

Hasegawa discloses an apparatus and a method of scribing a semiconductor wafer coated with an opaque material (115) comprising a stage, which is inherent to Hasegawa's teaching, configured to support a wafer (103), an imaging unit (1211) to image the wafer (para 0107-0108), generating a picture of wafer from the image and a computer using the picture to identify the scribe lines and scribing the wafer using the lines (para 0107-0111). It is inherent from Hasegawa's teaching that the camera identifying the scribe lines would provide the coordinates necessary for the scribing.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al. (Walker) in view of Ueta (6,590,919).

Walker discloses the claimed invention as discussed above; however, Walker does not disclose using X-rays to image the wafer. Ueta discloses using x-ray to image the wafer and to divide the wafer into chips by scribing (col. 6, line 39 – col. 7, line 44). Therefore, it would have

Art Unit: 2851

been obvious to one of ordinary skill in the art at the time of invention to provide another means to image the wafer where infrared camera imaging is in appropriate as taught by Ueta in col. 6, lines 39-65.

Claims 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa in view of Ueta (6,590,919).

Hasegawa discloses the claimed invention as discussed above; however, Hasegawa does not disclose using X-rays to image the wafer. Ueta discloses using x-ray to image the wafer and to divide the wafer into chips by scribing (col. 6, line 39 – col. 7, line 44). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide another means to image the wafer where infrared camera imaging is in appropriate as taught by Ueta in col. 6, lines 39-65.

Claims 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker in view of Hahn et al. (Hahn) (6,131,880).

Walker discloses the claimed invention as discussed above; however, Walker does not disclose using ultrasound to image the wafer. Hahn discloses using ultrasound to image and scribe the wafer (col. 10, lines 1-12). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide another means to image the wafer where infrared camera imaging is in appropriate as taught by Hahn in col. 10, lines 1-12.

Claims 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa in view of Hahn et al. (Hahn) (6,131,880).

Walker discloses the claimed invention as discussed above; however, Walker does not disclose using ultrasound to image the wafer. Hahn discloses using ultrasound to image and

Art Unit: 2851

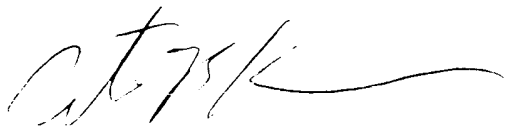
scribe the wafer (col. 10, lines 1-12). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide another means to image the wafer where infrared camera imaging is in appropriate as taught by Hahn in col. 10, lines 1-12.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Kim whose telephone number is (703) 305-0105. The examiner can normally be reached on Monday-Thursday from 8:30 AM to 6:00 PM. The examiner can also be reached on alternate Fridays during the same hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703 308 2847. The fax phone numbers for the organization where this application or proceeding is assigned is 703 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 306- 3431.



Peter B. Kim
Patent Examiner
August 22, 2003